

**PROPOSALS**  
FOR MAKING A  
**GEOLOGICAL AND MINERALOGICAL SURVEY**  
OF  
**PENNSYLVANIA,**  
FOR PUBLISHING A  
**SERIES OF GEOLOGICAL MAPS,**  
AND FORMING  
**STATE AND COUNTY GEOLOGICAL AND MINERALOGICAL COLLECTIONS.**

*The Maps will be projected, drawn, and engraved, on a uniform scale of two miles and a half to an inch, by HENRY S. TANNER, Author of the New American Atlas, &c. &c. from Original Documents and Surveys to be furnished by LARDNER VANUXEM, Professor of Geology and Mineralogy, and MAJOR JOHN WILSON, late civil engineer of South Carolina, Geographical Surveyor. The whole to be under the Superintendence of PETER A. BROWNE, the original Projector.*

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**CONDITIONS.**

The ATLAS will be comprised in twenty-seven numbers: each number will be complete in itself, as it will embrace one or more entire counties, as stated in the address of Mr. Browne. The last number will contain a general Map of the State, giving a connected view of the several districts.

The Price to Subscribers will be \$1 each number; the three first numbers to be paid for at the time of subscription, and each successive number to be paid for at the time of the delivery of the preceding one. Persons obtaining six subscribers and becoming responsible for their payment, will be entitled to a seventh copy.

Associations of Gentlemen in counties, furnishing thirty subscribers and becoming responsible for their payment, will be entitled to a Collection of the various Minerals of the county the survey may develope.

If fifteen hundred subscribers can be previously obtained, the survey will be commenced in June, 1828. The Drafting, Collating, and Engraving the Maps, will proceed without any unnecessary delay, paying due regard to the elegance and correctness of their execution.

*Philadelphia, Dec. 12, 1826.*

An adjourned meeting of the citizens of Philadelphia was held at the Hall of the Franklin Institute, on Wednesday evening, Dec. 6th, to take into consideration the plan proposed by Peter A. Browne, Esq. for a topographical, geological, and mineralogical survey of Pennsylvania. Dr. Robert M. Patterson was called to the chair, and George W. Smith, was appointed Secretary. The committee appointed at the previous meeting presented the following report, which was read, and on motion of Edward S. Burd, Esq. was adopted unanimously.

The committee appointed by the audience assembled on the 30th September, at the Hall of the Franklin Institute, upon the invitation of Peter A. Browne, Esq. to consider certain propositions respecting a geological and mineralogical survey of Pennsylvania, which were then submitted, by that gentleman, beg leave most respectfully to report, that they have taken the subject under their serious consideration, and have become more and more convinced of its *great importance*. Pennsylvania is undoubtedly the richest State in the Union in mineral productions. Her soil presents every variety of formation, except perhaps the volcanic; and her geology would therefore possess a general interest. Of the minerals furnished to us in such great abundance, nature seems to have particularly selected those which are the most useful to man. Among these may be mentioned iron of the finest quality, anthracite and bituminous coal, in inexhaustible quantities, salt, excellent lime, lead, copper and zinc.

We know that Pennsylvania possesses these mineral riches, but of the manner in which they are distributed over its surface, their position relatively to each other, and in a word, of the *geology* of the State, we are greatly ignorant. To remove this ignorance, and to convey a general knowledge of our mineral productions, by printed descriptions, public collections, and geological maps, is a project which cannot fail to advance the cause of science and of public improvement, and which is worthy of the patronage of every man who is anxious for the honour or the interests of the State.

Of the means which can be adopted for attaining this important object, the committee are convinced that the plan proposed by Mr. P. A. Browne, is the most eligible, and ought to receive the public approbation and support. By dividing the whole State into sections, and publishing a large number of separate maps, the expense of the work will be undoubtedly much increased; but this disadvantage will be more than coun-

terbalanced, by the greater minuteness of the survey, by the greater local interest which it is likely to excite, and by the division of the cost into small sums, payable at convenient intervals.

In recommending this scheme, with earnestness, not only to *individual* but *legislative* patronage, as meriting, in an eminent degree, the encouragement of a Republic, whose immense resources depend for their development upon a minute and thorough exploration of her soil and natural productions, the committee feel that they are performing a duty imposed upon them by every consideration involving the wealth and prosperity of the state. They are not disposed to indulge in extravagant anticipations; but they have no hesitation in declaring their unanimous opinion, that in case proper encouragement be afforded to this laudable and magnificent design, the cause of natural science will be greatly advanced; the value of lands at present apparently useless will be fully developed and incalculably increased; important aid will be afforded to the grand system of internal improvement; the manufacturing and agricultural interests of the country will be essentially promoted, and the whole commonwealth enriched, and most materially and beneficially affected in her various and most interesting relations.

The committee, therefore, recommend for adoption the plan proposed by Mr. Browne, and that a committee be appointed to assist him in carrying it into execution. The following committee was then appointed, viz. Hon. William Tilghman, Professor Robert M. Patterson, Clement C. Biddle, Edward S. Burd, Stephen Duncan, John Wurts, and Gerard Ralston, Esquires, of Philadelphia; H. I. Heidecopper, Esq. of Meadville, Harman Denny, Esq. of Pittsburgh, Hardman Phillips, Esq. of Phillipsburg, Geo. Taylor, Esq. of Pottsville, Wm. B. Smith, Esq. of Huntingdon, Dr. Robert H. Rose, of Silver Lake, Professor Henry Vethake and the Hon. John B. Gibson, of Carlisle, Saml. Wagner, Esq. of York, Joshua W. Alder, Esq. of Muncey, John M. Conyngham, Esq. of Wilkesbarre, J. S. Priestly, Esq. of Northumberland, James M. Porter, Esq. of Easton, Amos Ellmaker, Esq. of Lancaster, Dr. Wm. Darlington, of West Chester, and Erskine Hazard, Esq. of Mauch Chunk.

On motion of Gerard Ralston, Esq. the committee were authorised to fill vacancies and to add to their number.

(Signed)

ROBT. M. PATTERSON,  
Chairman.

Geo. W. Smith, Secretary.

*Pennsylvania Society for the Promotion of Internal Improvement.*

WHEREAS the "Pennsylvania Society for the Promotion of Internal Improvement," has, from the commencement of its existence, been fully convinced that a complete and Scientific, Geological, and Mineralogical Survey of the Commonwealth, would greatly promote the Internal Improvement, and thus increase the wealth, happiness and reputation of the State ; And whereas this society has frequently urged the importance of this measure on the attention of its auxiliary Societies, and their fellow citizens generally, who, though they fully coincided in opinion with this Society on the importance of this great object, have not aided in furnishing the funds for carrying it into effect, and the Society's resources being so much reduced by the mission to Europe, and by the publication of papers to impress on the public mind the vast importance of an extensive system of Internal Improvement, that it is unable to effectuate this desirable object : And whereas, this Society has learned, with great pleasure, that Peter A. Browne, Esq. of this city, has devised a plan, which is admirably calculated to accomplish this great design : It is, therefore,

*Resolved*, That the thanks of the "Pennsylvania Society for the Promotion of Internal Improvement," be tendered to PETER A. BROWNE, Esq. for his project of a Scientific, Geological and Mineralogical Survey of Pennsylvania, which, in their opinion, is the most practicable one ever presented to public attention, and that the Society strongly recommends it to the patronage of their fellow citizens throughout the State.

*Resolved*, That the Recording Secretary be directed to subscribe for ten copies of the Survey, one of which shall be kept in the Society's Library, and the others be presented to Auxiliary Societies.

*Resolved*, That a copy of these resolutions be transmitted to each of the Members of the Legislature from the city and county of Philadelphia, and that they be requested to use their exertions to obtain from the Legislature, a subscription for as many copies of said Survey, as may, with the co-operation of public spirited individuals, be likely to secure the accomplishment of the work.

True extract from the Minutes.

ABRAHAM SHOEMAKER,  
Recording Secretary.

*Philad. Feb. 15, 1827.*



## Resolution of the Select and Common Councils of the city of Philadelphia.

*February 22, 1827.*

Whereas the Select and Common Councils of the City of Philadelphia, have learned with much satisfaction, that a plan has been matured, for a Geological and Mineralogical Survey of the State of Pennsylvania, and that application has been made to the Legislature, to patronise the undertaking; and believing that such a survey, if properly effected, would be of incalculable benefit to the city of Philadelphia, by developing the resources of the State, and consequently increasing the trade, commerce and arts of its principal commercial emporium, Therefore,

*Resolved*, By the Select and Common Councils of the city of Philadelphia, that they feel much interest, in the success of the application to the Legislature, to patronise the undertaking, and aid in the accomplishment of a Geological and Mineralogical Survey of the State:

*Resolved*, That a copy of the foregoing preamble and resolution be forwarded to each member of the Legislature, from the City of Philadelphia.

## GEOLOGY OF PENNSYLVANIA.

Agreeably to public notice, a Meeting of the *Chester County Cabinet of Natural Science*, together with a respectable number of their fellow citizens of the county, was held at the Court House in the Borough of West Chester, on Saturday the 20th of January, for the purpose of considering the subject of a Geological and Mineralogical Survey of the State of Pennsylvania. PETER A. BROWNE, Esq. of Philadelphia, having been invited to attend the meeting, delivered an interesting address on the importance of the subject and explanatory of the plan lately proposed by him to effect such survey: After which the following preamble and resolutions were submitted to the meeting, by a member of the *Cabinet*, and unanimously adopted.

It may, perhaps, be assumed as an indisputable fact, that next to the primary articles of food and raiment, the three most important and valuable products of the Earth, are *Iron*, *Coal*, and *Salt*. These are found in Pennsylvania, of an excellent quality, and probably in greater quantities than in any other State in this Union: but to what extent, and under what circumstances of local advantage, they exist, has not been ascertained with sufficient precision. The public are but just beginning to perceive the immensity of their value; and are

scarcely yet aware that, at no distant day, those articles will rank among the most prominent sources of the wealth and enterprize of our State. Sufficient however, is perceived, to induce the State to commence the opening of channels of communication to the known repositories of those minerals.—It has now, therefore, become a matter of the greatest importance, whilst those channels of communication are projecting, that we should acquire authentic information of the localities, the extent and true character, of our valuable mineral deposits. This can only be obtained by means of a careful and scientific Geological examination. With the knowledge to be obtained by such an examination, we should be enabled to take a correct view of the whole ground which we are destined to occupy. We could at once perceive the points to which our exertions in Internal Improvements ought to be directed, and also appreciate more clearly the value and importance of those improvements. We should probably find that the aforesaid three minerals of themselves—independent of the other vast products of our soil and manufactures—would authorize the construction of Canals, and other labour-saving means of transportation, from our Cities to the sites where they are found. It is the opinion of a gentleman (William-M'Clure, Esq.) whose character, and opportunities of information, render his statements high authority, that “Limestone, Iron, and Manures, support the greatest part of the expense of Canals, in England.” These it is known abound in Pennsylvania; and if to these we add, our Anthracite, and Bituminous Coal, our Salt and our bulky agricultural and manufacturing products, there can be no doubt that our State will be amply remunerated for all the expenditures incurred in facilitating their transportation.

The question of Internal Improvement, indeed, seems to be happily settled. The great work must and will go on. The important consideration now is, to conduct it skilfully, and understandingly. To do that, we ought to be thoroughly acquainted with the physical structure of the State. An accurate knowledge of the various formations within our limits, is an indispensable pre-requisite to the due developement of our resources. Our *Cities* are deeply interested in the acquisition of this knowledge; but it is a gross mistake to suppose that the *Country*—and especially in the *interior*, where the treasure lies—is not equally so. In truth, the Commonwealth should be regarded as an *Unit*, in the consideration of those great interests, and the promotion of its prosperity should be the unwavering pursuit of every Pennsylvanian. As citizens of *Chester*, we are aware that our *County* is less immediately interested than many other parts of the State, in the execution of the great projects of internal communication, and the developement of mineral

wealth ; but we flatter ourselves, that in whatever concerns the high character, and relative importance of Pennsylvania, in this Confederacy,—in the march of Improvement, and the advancement of useful Science,—we feel an equal interest with any of our Brethren.—Therefore

1. *Resolved*, That this meeting is forcibly impressed with a sense of the importance and advantages of a Scientific Geological and Mineralogical Survey of this Commonwealth :—believing that such a work, effected by competent hands, would afford a knowledge of mineral treasures, and develop sources of future wealth and prosperity, in the bosom of our highly favoured State, of which the most sanguine of our citizens have, at this time, a very inadequate conception.

2. *Resolved*, That in the opinion of this meeting, an accurate survey of the State, exhibiting its Geological structure, and indicating the character, localities, and extent of its various mineral deposits, executed according to the most approved methods, by a scientific and practical Geologist, would be an undertaking peculiarly appropriate to the government of this Commonwealth, intimately connected with the great work of Internal Improvement, and as beneficial in its consequences to the People, as it would be honourable to the character of Pennsylvania.

3. *Resolved*, That it is the opinion of this meeting, in case the Legislature should not deem it expedient, at this time, to direct a Geological Survey of the State under their immediate authority, that it would be highly advantageous, and promotive of the best interests of the Commonwealth, to authorise the Governor to subscribe, on behalf of the State, under such regulations as the wisdom of the Legislature may provide, for an adequate number of copies of such Survey, to be executed by some responsible citizen, or Association of citizens, so that the patronage thus afforded, in conjunction with the probable subscriptions of public-spirited individuals, might secure the accomplishment of the work.

4. *Resolved*, That it is the opinion of this meeting, in case the mode of proceeding by subscriptions should be preferred to a Survey by order of the State, that the plan submitted by *Peter A. Browne*, Esq. of Philadelphia, to a meeting of Citizens of that place, held on the sixth of December last, is the most eligible proposition for a survey, under the superintendence of an individual, which has yet been offered ; and that it merits the patronage of the Legislature, and the aid and encouragement of the public in general.

5. *Resolved*, That in case the Legislature should direct a subscription for an adequate number of copies of a Geological Survey of the State, this meeting would respectfully suggest the

propriety of granting one copy of the work so subscribed for, to each College, and Academy, or other incorporated Seminary of Learning within this Commonwealth. The instruction of youth in useful knowledge being an object of primary importance under a free government, such a donation to the Schools heretofore established, or endowed, by the Legislature, would, in the opinion of this meeting, be attended with advantages vastly exceeding the expenditure incurred.

6. *Resolved*, That the thanks of this meeting are due, and are hereby tendered to Peter A. Browne, Esq. for his patriotic and public spirited exertions in promoting the cause of Science, and the useful arts.

7. *Resolved*, That the proceedings of this meeting be published: that a copy thereof be forwarded to each of the Members of the Legislature from this county: and that the editors of newspapers throughout the State be respectfully requested to republish the same, and invite the attention of their readers, to the consideration of the subject.

WILLIAM DARLINGTON,

President of the C. C. Cabinet.

Attest—DAVID TOWNSEND, Recording Secretary.

*South Carolina College,  
12th December, 1826.*

TO PROFESSOR LARDNER VANUXEM.

Dear Sir,

We have read, with much interest, an account of a scheme for a Geological and Mineralogical Survey of Pennsylvania, proposed for the consideration of the inhabitants of that important State, by their public-spirited and accomplished fellow citizen, Peter A. Browne, esq. Enterprizes like this not only redound to the intellectual and scientific reputation of a country, but are also important links in the chain of causes, which secure to modern states sources of wealth and comfort, which previously to their operation could hardly have been conjectured to exist. In Sweden and Germany, particularly in Saxony, such pursuits have always been extensively patronized, and it is to them, that we must ultimately trace up, not only the enlightened views of these sciences, which now exist, but also the prevailing enthusiasm for their further prosecution and improvement. Such is the known importance of these sciences, that, in England, those, who devote their attention to them, with a view to practical results, are so far supported by public opinion, as to find it worth while to confine themselves exclu-



sively to those objects. The patronage afforded to such subjects in France, is universally celebrated. Pennsylvania is ascertained to be peculiarly rich in mineral products, and to present marked features of geological interest. A careful survey and minute examination of these, especially if conjoined with accurate descriptions of the surface soil, cannot fail to afford useful hints to the enterprising capitalists, as well as to increase the wealth and add to the scientific reputation of that already important section of our common country. If there be any subject of regret to us in the undertaking, which is proposed, it can only arise from the certainty, that it will deprive us of your valuable services in our own community. With our best wishes for your success, we are, with cordial regard,

Dear Sir, your friends,  
 Thomas Cooper, M. D.  
 Tho. Park,  
 Henry Junius Nott,  
 Robert Henry,  
 James Wallace.

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*Washington College, Va.*  
*Novr. 21st. 1826.*

The subscribers having read and considered a plan of Peter A. Browne, esq. of Philadelphia, for "A Geological and Mineralogical Survey of Pennsylvania, and the publication of a series of Maps," &c. very cheerfully express our opinion that the said plan, if well executed, is likely to be highly beneficial to the State of Pennsylvania, in disclosing her mineralogical wealth, and in bringing forth into view her varieties of soil, and favourable situations for the employment of water power. The probable, and almost certain consequence will be the promotion of arts and manufactures, the improvement of agriculture, and enlargement of science. Such a survey would also be particularly interesting to Virginia and to Maryland. Between Virginia and Pennsylvania there is a great similarity of geological features. They both contain within their limits alluvial, primitive, transition and secondary formations. They are both pervaded by the *great limestone valley*, and by the same ridges of mountains. Indeed, there are probably few states in the union which might not derive some advantage from the proposed survey.

Henry Ruffner, Professor of Languages.  
 G. A. Baxter, President.  
 Edward Graham, Professor Nat. Phil.

Extract from the American Journal of Science and Arts, conducted by Benjamin Silliman, M. D., LL. D., Professor of Chemistry and Mineralogy in Yale College. Vol. xii. No. 1. p. 173.

*“Geological Survey of Pennsylvania.* Proposals have been issued for making a geological and mineralogical survey of Pennsylvania, for publishing a series of geological maps, and forming state and county geological and mineralogical collections. The maps will be projected, drawn, and engraved, on a uniform scale of two miles and a half to an inch, by Henry S. Tanner, author of the New American Atlas, &c. &c. from original documents and surveys, to be furnished by Lardner Vanuxem, Professor of Geology and Mineralogy, and Major John Wilson, late Civil Engineer of South Carolina, Geographical Surveyor. The whole to be under the superintendence of Peter A. Browne, the original projector.

“On the 30th of September, 1826, the plan of the above survey and publication was submitted to a public meeting assembled in Philadelphia for that purpose, who resolved that the proposition should be adopted, and passed a vote of thanks to the proposer. They also appointed a highly respectable committee to take the subject into consideration; and a report was made, at a meeting held 6th December, 1826, which was unanimously adopted. From that report the following statements are cited.”

[An epitome of the report here follows.]

“A committee of twenty five persons, distinguished for character and influence, and residing in both town and country, was accordingly appointed, and we cannot doubt that every effort will be made to carry into effect a plan which *eminently deserves the patronage of the State of Pennsylvania and of the Nation.* We heartily wish the projector and his friends every desired degree of success, both in the effort to raise the necessary funds, and in the subsequent execution of an enterprize, *distinguished alike for its usefulness, honourable and arduous character.* Mr. Maclure set the example of a gigantic national survey, which drew, with a masterly hand, the great outlines; and during the almost twenty years that have since elapsed, a multitude of local observations and surveys, more or less extended, have been made.”

“*In no instance, however, has an entire State been surveyed, mineralogically and geologically; and we think it fortunate that the first great effort of this kind should be made in a state distinguished for its extent, and for the variety and richness of its mineral productions, and situated so near the geographical centre of the United States, that both the knowledge acquired and the example exhibited, will prove the more eminently useful.*”

"Fine models of geological surveys and maps are exhibited in the Transactions of the English Geological Society, and in many Continental Memoirs. We doubt not that the gentlemen who are to be charged with this responsible duty, will avail themselves of every aid."

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Extract from the Franklin Journal and American Mechanic's Magazine, devoted to the useful Arts, Internal Improvements and general Science, edited by Thomas P. Jones, Professor of Mechanics in the Institute. Vol. ii. p. 296.

*"Proposed Geological Survey of the State of Pennsylvania."*

"A public address, intended to promote a geological and mineralogical survey of this state, was delivered in the Hall of the Franklin Institute, on the 30th of September, by Peter A. Browne, Esquire.

The meeting was very respectably attended, and when the address was concluded Dr. Robert M. Patterson was called to the Chair, and Gerard Ralston, Esquire, appointed Secretary. Resolutions were then passed, approbating the proposition, and complimenting the gentleman who had delivered the address. A committee was appointed, consisting of Peter A. Browne, C. C. Biddle, E. S. Burd, Stephen Duncan, John Wurts, Dr. R. M. Patterson, Gerard Ralston, and Henry S. Tanner.

This committee was requested to report to a future meeting, a plan for carrying the proposition into effect; for which purpose, they were authorised to call another meeting of the citizens. The address has been published, and a short abstract of it will undoubtedly be acceptable to our readers. After noticing the importance of Geology and Mineralogy in their connexion with general Science, and the particular inducements and facilities, which the United States afford, for the prosecution of these studies, a plan is proposed, for the attainment of the main object of the address. As an encouragement to the prosecution of the survey, it is stated, that the services of that eminent Geologist and Mineralogist, Mr. Lardner Vanuxem, can be procured. This gentleman was educated at the celebrated School of Mines in Paris, and is now a Professor at the College of South Carolina. In the department of drawing and engraving Maps, Mr. Henry S. Tanner of this city, has offered his services; his abilities in that line, are very generally known. It is proposed, to divide the whole state into 26 districts, each district to embrace from one to three counties, and to be made the subject of a separate geological map; the engraving and publication of which, shall proceed, as the districts are successively

surveyed. The whole to be engraved on a scale of two miles to an inch, and to contain all the geographical information now possessed, or which may be furnished by the Survey. It is supposed, that the Survey may be completed in five years, and that the expense will be about \$3,000 per annum, and that this expense, together with the cost of executing the maps and transporting and arranging the Mineralogical and Geological collection, may be defrayed by the sale of the Maps, provided fifteen hundred subscribers can be obtained, at one dollar for each map. Besides a grand collection of the Geology and Mineralogy of the whole state, to be arranged in geographical order, it is proposed to supply a county collection, to each county that furnishes thirty subscribers. Attention is called to the importance of this survey, in aiding the exertions now making for the internal improvement of the State; as it would point out all those facts, most important to be known. Notice is also taken of the advantages which would accrue to the manufacturing interest, by the discoveries which must result from such a survey, as it will bring to light those metals, earths, and combustibles which are employed in the various arts and manufactures, and point out the places most suited for manufactories. Agriculture, it is said, will be greatly promoted by this survey, as it will not only make the places known, where most valuable minerals may be obtained, which serve to enrich the soil, when employed as manures; but it will also render the fact manifest, that there are extensive portions of the State, in which the land is excellent in quality, and by which their vicinity to water courses or mineral treasures will offer encouragements to the cultivator of the soil, of which he is not, at present, aware. We must now close our notice of this address; the importance of the subject is evident to all, and should not the present effort succeed, it will still be productive of benefit, by awakening public attention, and, perhaps, by pointing out to others the road in which we ought to have travelled."

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*From Niles' Weekly Register, dated Baltimore, Dec. 2d. 1826.*

PENNSYLVANIA. We have a copy of an address of Peter A. Browne, esqr. of Philadelphia, to promote a geological and mineralogical Survey of the whole state of Pennsylvania, the publication of a series of geological maps, and the formation of State and County geological and mineralogical collections, submitted to a meeting of a number of citizens at the Hall of the Franklin Institute, and approved, with the thanks of the meeting. It is estimated that the whole expense of making the surveys, preparing the facts collected for publication, the engraving,



printing, &c. will cost about thirty-six thousand dollars—a sum of small consideration, indeed, compared with the information that would be obtained, if the plan was conducted as it should be, and probably would be, if fully supported. The advantages of the survey are well set forth in the address, and we hope that it will receive that attention which we think it deserves. In proportion as the resources of our country are ascertained, so shall we advance in population and power.

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Letter from the Hon. J. B. Gibson, C. J. of Pennsylvania.

*Carlisle, 12th Nov. 1826.*

Dear Sir,

Absence from home has prevented me from answering your communication till within a few days. That the enterprize which you propose, may be accomplished by a judicious application of means perfectly within the reach of its friends, I think you have demonstrated. In comparison with the benefits that will result from it, as well by presenting new objects for the exercise of industry and developing the resources of the state, as by the additions it will bring to the stock of scientific knowledge, the expense will be inconsiderable. Besides, it is of no small account that Pennsylvania will have the honour of leading the way in a systematic pursuit of this great object, and perhaps of giving an impulse to geological research in other parts of the union—itself a great and an original praise. I had thought of your plan at various times, but had neither the leisure nor the means requisite to put it in execution. I need not say how sincerely I wish you success.

Very truly your friend,

JOHN B. GIBSON.

Peter A. Browne, Esq.

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Letter from the Hon. Henry Clay, Secretary of State of the United States.

*Washington, 22d. Oct. 1826.*

Sir,

I have duly received your letter of the 16th instant, with a copy of an address intended to promote a geological and mineralogical Survey of Pennsylvania. I have no difficulty in expressing a strong conviction of its utility ; and, if the necessary pecuniary assistance can be obtained, to engage proper scien-

tific men, without whom it would be better to postpone its execution, there can be no doubt that it is practicable. The benefits of the survey would be very great in Pennsylvania ; but would not be limited to that state.

Wishing you the greatest success in this public spirited undertaking,

I am, respectfully, your ob. servt.

H. CLAY.

Peter A. Browne, Esq.

Letter from the Hon. Richard Rush, Secretary of the Treasury of the United States.

*Washington, 27th October, 1826.*

Sir,

My public engagements have prevented an earlier acknowledgement of your letter of the 16th instant, accompanied by your address, intended to promote a geological and mineralogical survey of Pennsylvania, the publication of a series of geological maps, and the formation of state and county geological and mineralogical collections.

As regards the feasibility of the proposed plan, I do not feel myself competent to speak with any confidence, though I should suppose that there could be no obstacles in the way of its success insurmountable to the enterprize and resources that might be made to bear upon it. As regards its utility, I should think that there could be but one opinion. It is always desirable to see the cause of science promoted, and there is no branch of physiological science, calculated to draw after it more important uses, than that which aims at obtaining a true knowledge of the soil, with all the treasures it contains. The mineral and fossil productions of our country have, as yet, been but imperfectly explored, and your plan seems to me to be projected upon the true scale to make us acquainted with them. You have properly adverted to its connexion with internal improvements and manufactures, those two great sources of national riches and prosperity. If knowledge is power, so, also, is it wealth ; and especially may it become the means of wealth, under the enlarged views which your plan embraces. As a Pennsylvanian, I heartily wish it success, and not in this confined sense alone, since public spirited undertakings of this description, when they succeed, become examples to other States of the Union ; thus, in the end, making their benefits co-extensive with our empire.

I remain, respectfully, your ob. servant,

RICHARD RUSH.

Peter A. Brown, Esq. Philadelphia.

Letter from B. Silliman, Professor of Geology and Mineralogy  
in Yale College.

*New Haven, January 23d, 1827.*

Sir,

I must apologise for not having before acknowledged the receipt of your letter of Oct. 16, 1826, and the accompanying address on the subject of a geological and mineralogical survey of Pennsylvania. I received the communication just about the time of entering upon my chemical course, and not observing that it required an answer, have only just now, on overhauling my papers, discovered my omission. I cannot hesitate a moment to express my approbation of the plan, and my sense of the high value of the research and of the credit, which an able execution of it would reflect upon Pennsylvania, and the country. The principal difficulty that I see—which however, is, I must confess, a very formidable one, is the amount of funds requisite to carry the plan into effect. You have my hearty good wishes, and if a notice of the plan in the forthcoming number of the *American Journal*, would promote your views, I will with pleasure insert it.

I remain respectfully yours,

B. SILLIMAN.

Peter A. Browne, Esq.

Letter from Professor Thos. Cooper.

*South Carolina, Columbia,*

*Nov. 3d. 1826.*

Dear Sir,

I have received your printed proposals for a geological survey of Pennsylvania. It is needless, after the communications between us, to say how much I approve of the project in all the views you have taken of it. I hope most sincerely it will succeed, and set the first perfect example of a measure that ought to be adopted throughout the United States. I am glad too to see that Philadelphia sets so good an example, and that friends I highly value are the proposers and projectors of the measure. I fear only, we shall be likely here to feel the loss of Vanuxem, whom we cannot replace. Chemistry and Mineralogy are becoming more laborious to me than I like.

Adieu: you have my good wishes for yourself and your projects.

THOMAS COOPER.

*Yale College, Nov. 2d. 1826.*

Sir,

I had the pleasure yesterday, to receive yours, enclosing the address on the subject of a Geological and Mineralogical Survey of the State of Pennsylvania, for which please to accept my thanks. I have long entertained the opinion, that it would be greatly for the interest of every state in the Union, to have executed, at the public expense, such a survey as you contemplate. Soon after I commenced my residence in North Carolina, and found myself in a region whose geology was rich and diversified, though as yet nearly unexplored, I conceived the idea of executing there a scheme somewhat similar to yours.

Wishing you every success in your efforts to diffuse useful knowledge over your spacious commonwealth, and to develop its ample resources,

I remain sir, with much respect, yours,  
DENISON OLMSTED.

P. A. Browne, Esq.

Letter from Wm. Darby, Esq. Geographer.

*Sandy Spring, Montgomery County, Md.  
December 2nd. 1826.*

PETER A. BROWNE ESQ.

Sir,

By this day's Mail and from an unknown hand, I received a copy of your Address on the subject of a Mineralogical Survey of Pennsylvania. The nature of the case of course precludes the necessity of any apology for thus promptly acknowledging its reception, and subjoining some remarks on the Address.

It must be really a matter of sincere gratification to every well informed man engaged in the business, to find the Internal Improvement of Pennsylvania, assuming the form of rational system. Much money, and what is worse, time have been lost to the state, by the defective manner of collecting elements for the state map, published by John Melish. If an adequate conception of its superior utility had been felt by the parties concerned, the mineralogy of the state would have been examined with its geography, and the state map accompanied by a statistical volume; of the two separate the descriptive vol-



ume would have been immeasurably more useful than the map. I more than once attempted to impress on the mind of Mr. Melish, the necessity of such a letter press accompaniment to his map, but that gentleman seemed unaware of its value. When I prepared for the American edition of Brewster's Encyclopædia, the article Navigation Inland, I more than ever before, saw the wretched state of our interior geography and statistics; and how far has our science on these vital subjects improved since 1822? It is humiliating to give a candid answer to the interrogatory.

I subscribe cheerfully to the truth of the following sentence in your Address. You most justly observe "*That a reexamination of the geographical part of the Map, with a view to its perfection, will be indispensable.*"

It is needless for me to say, that your plan meets my utmost approbation;---but schooled bitterly as I have been in respect to public patronage, I cannot dismiss fears of success, if your success depends on subscription. No reasonable doubt can exist in any reflecting mind, but that if your contemplated surveys were made with even moderate skill, and the elements made public, in the elegant manner proposed, that, similar to the New York canals, your success would give impetus to public exertions in other states, and in the brief lapse of 15 or 20 years, eventuate in discoveries and improvements beyond our most sanguine anticipations.

Except as respects the surveys, I cannot attempt any particular observation on your estimate of expenditure; but as I have had some very severe experience on surveying, I cannot think it presumption to state, than in my opinion \$15,000 is a moderate sum to defray the absolute expense of a double survey of 47,000 square miles. With economy and judicious management it may suffice, perhaps. One, if not the greatest error committed in collecting materials for the state map, was employing too many individuals (some very incompetent), whose labours being unconnected were consequently desultory.

Two men adequate to their task, acting in concert, by being well paid and of course uncramped in their operations, in the time you have allowed, *five years*, may make a very minute mineralogical survey of Pennsylvania.

I have travelled much in Pennsylvania and know the unavoidable expense. Many of the mountain chains are totally omitted in the state map, and the elevation, and dip and inclination of the strata entirely overlooked. The rivers, as commercial channels, remain in great part to be surveyed, as does the soil. Without a minute attention to botany, in such a work as the one you propose, a due examination ought to be made on

natural and cultivated vegetables. The actual state of agriculture, and the quantity of soil still in a state of nature, ought to be very carefully ascertained. To execute this task, your Geographer must visit every county in the state, and seek his elements where alone they are to be found.

Should the work suit its promise, Pennsylvania will have acquired on the day of its publication an arm of incalculable power.

Permit me to be, sir, respectfully,  
WILLIAM DARBY.